

|                              |                                      |  |  |
|------------------------------|--------------------------------------|--|--|
| <b>Office Action Summary</b> | <b>Application No.</b><br>10/587,073 | <b>Applicant(s)</b><br>ISHIJIMA ET AL. |  |
|                              | <b>Examiner</b><br>Greg Binda        | <b>Art Unit</b><br>3679                |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 12 January 2010.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1,2,4,5,7,8,11 and 12 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,5,7,8,11 and 12 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 July 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |  |
|--|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input checked="" type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                                  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____   |



Art Unit: 3679

*Continued Examination Under 37 CFR 1.114*

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on January 12, 2010 has been entered.

2. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

*Claim Objections*

3. Claims 5, 8, 11 & 12 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim.

*Claim Rejections - 35 USC § 112*

4. Claims 1- 12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

a. Claim 1 recites the limitation, “a torsional angle” but does not recite where in relation to the previously recited claim elements, the angle is measured.

b. Claims 1 & 2 recite the limitation, “input torque” but do not recite where in relation to the previously recited claim elements, the torque is applied.

Art Unit: 3679

c. Claim 2 recites the limitation, “a torsional rigidity” but does not recite where in relation to the previously recited claim elements, the rigidity is measured.

d. It is unclear how the last two paragraphs in each of claims 1 & 2 is intended to further define the claimed invention, a fixed constant velocity joint (see Figs. 3-6). The limitations at the last two paragraphs in each of claims 1 & 2 are entirely related to the *orientation of the fixed joint* (as defined in the last paragraph of each claim) once installed in an unclaimed combination (see Fig. 2). The paragraph bridging pages 11 & 12 disclose that desired torsion angle and torsional rigidity are achieved through optimization of a bending angle (see  $\alpha$  in Fig. 2b) of a steering shaft. There is no reason either recited in the claims or provided anywhere else in the application, to believe any fixed constant velocity joint comprising the other limitations of the claims could not also be oriented in the same manner and thus provide the same torsion angle and torsional rigidity. If applicant's intention is to claim a combination like that in Fig. 2 such that it comprises a constant velocity joint in a preferred rotational phase and bending angle, then applicant should have claimed such a combination. Instead applicant is doing the equivalent of a person trying to claim a pen by defining the preferred manner in which it should be held.

*Claim Rejections - 35 USC § 103*

5. Claims 1, 2, 4, 5, 7, 8, 11 & 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yamazaki et al, US 2003/0083135 (Yamazaki). Fig. 5 shows a fixed type constant velocity joint comprising an outer joint member 1 formed with axially extending ball grooves 1a at

Art Unit: 3679

circumferentially equispaced positions on the inner spherical surface 1b, an inner joint member 2 formed with axially extending ball grooves 2a at circumferentially equispaced positions on the outer spherical surface 2b, balls 3 disposed in wedge-shaped ball tracks defined by the ball grooves of the outer and inner joint members, and a cage 4 interposed between the inner spherical surface of the outer joint member and the outer spherical surface of the inner joint member to hold the balls. Fig. 5 shows that a pressing section 10 which axially applies an elastic pressing force 12 is provided on the inner joint member 2 side, and the cage 4 is provided with a receiving section 15 which receives a pressing force from said pressing section. Yamazaki discloses in paragraph 0046 that the fixed type constant velocity joint is used for steering devices.

Yamazaki does not expressly disclose that at an input torque equal to zero the torsional angle is 0 and the torsional rigidity is in the range of 1.5 Nm/deg to 6 Nm/deg. However, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have the torsional angle equal to 0 and the torsional rigidity of the joint in a range of 1.5 Nm/deg to 6 Nm/deg when the input torque is zero, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Kulling*, 897 F.2d 1147, 14 USPQ2d 1056.

#### *Response to Arguments*

6. Applicant's arguments filed January 12, 2010 have been fully considered but they are not persuasive.

Art Unit: 3679

a. Applicant argues the 112 rejections at items 4a-4c above are invalid because one of ordinary skill in the art would understand the offending limitations. However, applicant failed to provide any evidence to support his argument. There is no reason to expect that anyone would necessarily know how the terms “a torsion angle,” “input torque” and “torsional rigidity” relate to specific elements in the claims in the way applicant presumably intends since no such relations are recited in the claims. See MPEP § 2172.01

b. Applicant argues that the claims are patentable over Yamazaki because the constant velocity joint disclosed in Yamazaki is not configured to be attached to a shaft in the manner recited in the last paragraph in each of claims 1 & 2. However, applicant failed to explain what prevents the constant velocity joint in Yamazaki from being attached to a shaft in a manner like that recited in the last paragraphs of each of claims 1 & 2.

### *Conclusion*

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Greg Binda whose telephone number is (571) 272-7077. The examiner can normally be reached on M-F 10:30 am to 8:00 pm with alternate Mondays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Daniel P. Stodola can be reached on (571) 272-7087. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 3679

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Greg Binda/  
Primary Examiner, Art Unit 3679